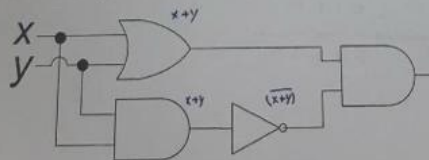




King Saud University  
College of Computer and Information Sciences  
Department of Information Systems  
IS201-Fundamentals and Ethics of Information Systems  
Quiz 1 v1

1. Selecting the right hardware is important, but every software can run on any hardware (True or False) False
2. Central Processing Unit (CPU) consists of two components: Arithmetic unit and control unit (True or False) True
3. Clocks of different computers may drift after a while even when they are synchronized (True or False) True
4. Secondary storage is cheaper than memory (True or False) True
5. Random Access Memory (RAM) is volatile (True or False) True
6. A Terabyte is  $1024 * 1024$  MB (True or False) False
7. The Boolean expression  $(A + B)' + C$  is equivalent to:  $(A' \cdot B') + C$   
a-  $(A' + C)(B' + C)$     b-  $(A' + C) + (B' + C)$     c-  $(A' + B') + C$   
d-  $(A' \cdot C) + (B' \cdot C)$     e-  $(A + B + C)'$
8. The different forms of multiprocessing are: parallel (central computer) and multi-core (single user)
9. The decimal equivalent to  $10110_2$  is: 22
10. The decimal equivalent to  $1101.11_2$  is: 13.75
11. Convert the decimal number 64 to binary: 1000000
12. Convert the hexadecimal number  $2B3_{16}$  to decimal:  $2 \times 16^2 + 11 \times 16^1 + 3 \times 16^0$
13.  $11011 + 11001 =$  110100
14.  $11011 - 01101 =$  01110
15. Find the output of the following logic circuit:



Output =  $(X+Y) \cdot (\overline{XY})$

**Question 1 (CLO 1): True (T) or False (F) [3 points]**

2

- 1) DSS system can include database, model base and user interface.
- 2) The unique value of learning system is that they allow organization to capture and use the wisdom of expert and specialist.
- 3) Quality information that is guarded against unauthorized access is said to be secure.
- 4) Knowledge is a collection of facts organized in such a way that they have value beyond the facts themselves
- 5) Competitive advantage is significant and ideally long-term benefit to a company over its competition.
- 6) One of the techniques used in finding a job is creating a LinkedIn account.

T
T
T
T
T
T

**Question 2 (CLO 2): Fill in the blanks [4 points]**

35

Use words from the list below to fill in the blanks

[RAM, ROM, Software as a Service (SaS), Cloud computing, Green Computing, Software bug, Computer-based information system (CBIS), Embedded system, Proprietary software, Data centers, Utility Programs, Middleware, Clock speed, Storage capacity, Application software, Systems software]

- 1) Efficient environment, recycling and reduce harmful materials are all concerns of Green Computing.
- 2) Software bug is a defect in a program that keeps it from performing as it should.
- 3) The set of programs that coordinates the activities and functions of hardware and other programs is called Systems Software.
- 4) Middleware is software that allows various systems to communicate and exchange data.
- 5) ROM is a non-volatile, permanent storage
- 6) Cloud Computing allows businesses to subscribe to Web-delivered application software by paying a monthly service charge or a per use fee.
- 7) The Clock speed is a series of electronic pulses measured in Gigahertz (GHz).
- 8) Data center houses the computer hardware that delivers an organization's data and information services



2.25

### Question 3 (CLO 2): Comparisons [3 points]

1) Differentiate between sequential access and direct access and give one example of devices that use these methods.

Sequential access	Direct access
Access Full access to the system. ex: SASD	Can access the system <sup>to</sup> <del>with</del> only a specific area. ex: LMS

2) Differentiate between portable and non-portable computers and give one example of a device for each one.

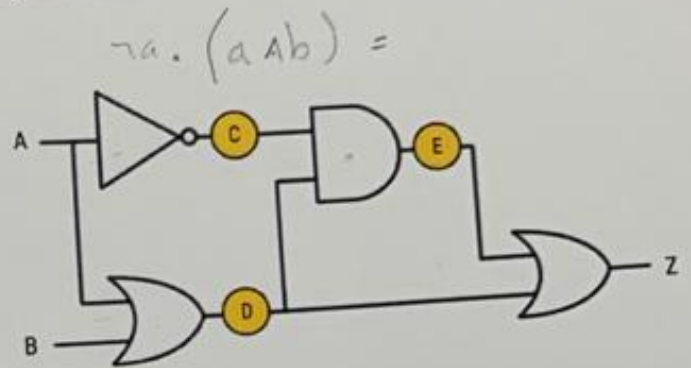
Portable computers	Non-portable computers
A Device contains System Software and applications, Usually small in size <del>and</del> so it's portable you can use it in every where. ex: Laptop, mobile and tablets.	- A device that contains system software, hardware and applications. Non-Portable, Usually are big in size with wires. ex: Desktop Computers, main frame and super computer

3) Differentiate between the two types of software, by giving one advantage and one disadvantage of Off-the-Shelf software over Proprietary software, and one advantage and one disadvantage of Proprietary software over Off-the-Shelf software.

	Off-the-Shelf software	Proprietary software
Advantage	Economical, <del>and</del> more efficient and profitable	The person or organization or the company, will get exactly what they need in the program.
Disadvantage	The user may not find all needs.	High risk.

5) Write Boolean expressions for the following logic circuit.

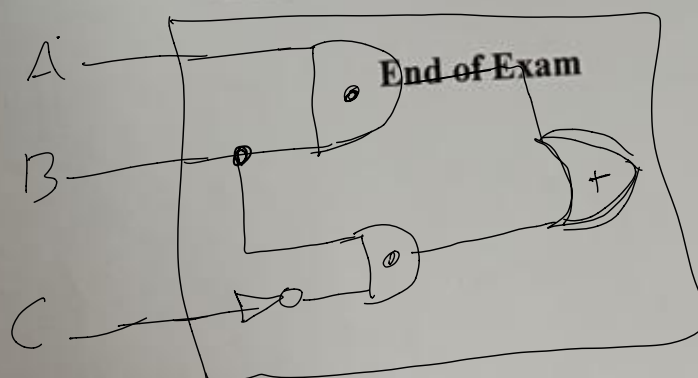
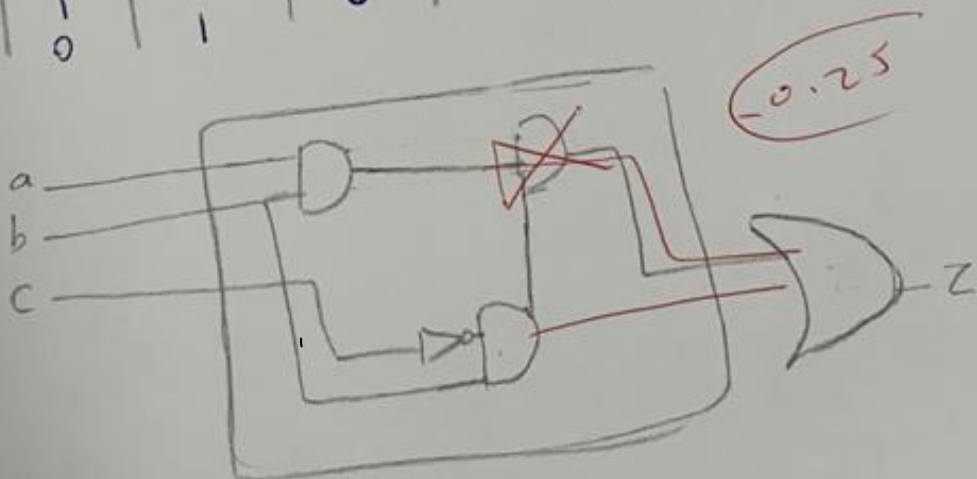
- $C = \neg a$
- $D = (a \wedge b)$
- $E = \neg a \cdot (a \wedge b)$
- $Z = \neg a \cdot (a \wedge b) + (A + B)$   
-0.25



6) Create a logic circuit for the following Boolean expression:

$$Z = (A \text{ and } B) \text{ OR } (B \text{ and Not } C)$$

a	b	c	$\neg c$	$a \wedge b$	$b \wedge \neg c$	$(a \wedge b) \vee (b \wedge \neg c)$
0	0	0	1	0	0	0
0	0	1	0	0	0	0
0	1	0	1	0	1	1
0	1	1	0	0	0	0
1	0	0	1	0	0	0
1	0	1	0	0	0	0
1	1	0	1	1	1	1
1	1	1	0	1	0	1





32	12	16	0
16	12	8	0
8	12	4	0
4	12	2	0
2	12	1	0
1	12	0	1

32	18	4	0
41	18	0	4

### Question 5 (CLO 3): Binary Numbers, Gates [7 points]

5.5

1) Convert the decimal number 32 to the following bases:

Base 2	Base 8
$= 3 \times 2^1 + 2 \times 2^0$ The binary number is $= 8 + 2$ $= 10$ <div style="border: 1px solid black; padding: 2px; display: inline-block;">100000</div>	$= 3 \times 8^1 + 2 \times 8^0$ The Octal number is $= 24 + 2$ $= 26$ <div style="border: 1px solid black; padding: 2px; display: inline-block;">40</div>

2) Convert the following numbers to decimal:

(4B) <sub>16</sub>	(101011) <sub>2</sub>
$= 4 \times 16^1 + B \times 16^0$ $= 64 + 11$ $= 75$	$= 1 \times 2^5 + 0 \times 2^4 + 1 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 1 \times 2^0$ $= 32 + 0 + 8 + 0 + 2 + 1$ $= 43$

3) Convert the binary number 10010110 to:

Base 8	Base 16
$1 \times 8^7 + 0 \times 8^6 + 0 \times 8^5 + 1 \times 8^4 + 0 \times 8^3 + 1 \times 8^2 + 1 \times 8^1 + 0 \times 8^0$ $= 524828 +$ <div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">0.25</div>	$1 \times 16^7 + 0 \times 16^6 + 0 \times 16^5 + 1 \times 16^4 + 0 \times 16^3 + 1 \times 16^2 + 1 \times 16^1 + 0 \times 16^0$ $=$ <div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">0.5</div>

4) Do the following operation for the binary numbers, showing all carries (if additional) or borrows (if subtraction):

1110 - 1011	10111 + 10011
$\begin{array}{r} 1110 \\ - 1011 \\ \hline 0000 \end{array}$ <div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">0.25</div>	$\begin{array}{r} 10111 \\ + 10011 \\ \hline 101010 \end{array}$

**Question 4 (CLO 1): Short answers [3 points]**

1) Identify **two** global challenges associated with information systems.

- Time, distance challenges.
- State, region and Country's laws.

2) What is technology diffusion theory? List **two** categories of innovation adopters.

A theory that describe the acceptance of ~~pe~~ people to the diffusion of technology, and how they adapt or not with it.

Innovation Adopters:

- Innovators.
- early adopters.
- early majority.
- Laggards.

3) Give **four** strategies employed by organizations to achieve competitive advantage?

- Cost leadership.
- Differentiation.
- Niche Strategy.
- Derelopment.



b. Convert the following numbers to decimal:

3A <sub>16</sub>	1101 <sub>2</sub>
$3 \times 16^2 + 1 \times 16^1 + 0 \times 16^0 = 784$	$1 \times 2^3 + 1 \times 2^2 + 0 \times 2^1 + 1 \times 2^0 = 13$

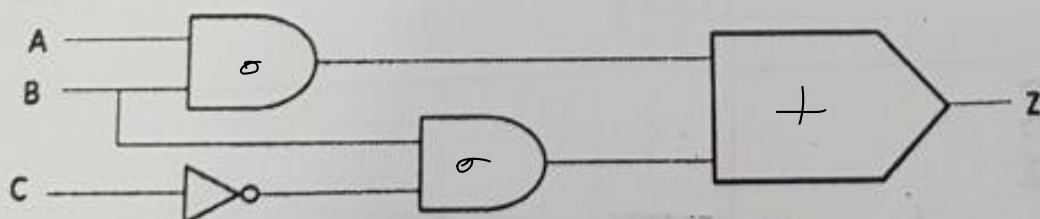
c. Convert the binary number 101101001 to:

Base 8 Octal	Base 16 Hex
$101 \ 101 \ 001$ $2 \ 2 \ 1$ $= 221$	$1 \ 0110 \ 1001$ $1 \ 3 \ 9$ $= 139$

d. Do the following operation for the binary numbers, showing all carries (if addition) or borrows (if subtraction):

<p>a) <math>1110 - 1011</math></p> $\begin{array}{r} 1110 \\ - 1011 \\ \hline 0001 \end{array}$	<p>b) <math>10111 + 10011</math></p> $\begin{array}{r} 10111 \\ + 10011 \\ \hline 101010 \end{array}$
---	---

e. Write Boolean expression for the following logic circuit.



$$(A \cdot B) + (B \cdot \bar{C}) = Z$$

or



### Question 3: Fill in the blanks

Use words from the list below to fill in the blanks

[ Green Computing, Software bug, Embedded system, Proprietary software]

- 1) Efficient environment, recycling and reduce harmful materials are all concerns of Green computing
- 2) Unexpected termination of a program is one of the problems caused by a Software bug

### Question 4: Short answers

- 1) Identify TWO advantages of the use of solid state secondary storage devices (SSDs) over magnetic or optical media

1- greater capacity

توفر مساحة كبيرة

2- Non Volatile

غير متطايرة

- 2) Differences between Sequential access and direct access and give one example of devices that use these methods.

Sequential access

direct access

DVD

USB

Access to data as it's stored

Access to data directly

### Part 2: Binary Numbers, Gates and Database

#### Question 1:

Convert the decimal number 28 to the following bases:

Base 2 binary			Base 8 octal		
8	2	0	28	8	
4	2	0			
2	2	0			
1	2	1			
0	2				

Base 8 octal

28 / 8 = 3 R 4

### Question 3: Fill in the blanks

Use words from the list below to fill in the blanks

[Computer program, Software bug, Embedded system, Systems software]

- 1) computer program sequences of instructions for the computer.
- 2) Each type of system software is designed for a specific CPU and class of hardware.

### Question 4: Short answers

- 1) Identify TWO of Green computing goals.
  - 1- Lowering energy use in organizations .. (تقليل استهلاك الطاقة لدى الشركات)
  - 2- reducing toxic use of materials (تقليل استخدام المواد السامة)
  - 3- recycling (زيادة إعادة التدوير)
- 2) Differentiate between Multitasking and Multithreading.
 

more than one task on the same computer in the same time	more than one thread of the same program in the same time
--	---

### Part 2: Binary Numbers, Gates and Database

#### Question 1:

- a. Convert the decimal number 24 to the following bases:

Base 2	Base 8
$24_{10} = ?_2 \rightarrow (101000)_2$ $24_{10} = 0.25_{16}$ <div style="display: flex; justify-content: space-around;"> <div> <math>2 \overline{) 24}</math>  <math>\underline{24}</math>  <math>0</math>  <math>2 \overline{) 12}</math>  <math>\underline{12}</math>  <math>0</math>  <math>2 \overline{) 6}</math>  <math>\underline{6}</math>  <math>0</math>  <math>2 \overline{) 3}</math>  <math>\underline{3}</math>  <math>0</math> </div> <div> <math>2 \overline{) 2}</math>  <math>\underline{2}</math>  <math>0</math>  <math>2 \overline{) 1}</math>  <math>\underline{0}</math>  <math>1</math> </div> </div>	$24_{10} = (30)_8$ <div style="display: flex; justify-content: space-around;"> <div> <math>3 \overline{) 24}</math>  <math>\underline{24}</math>  <math>0</math>  <math>3 \overline{) 0}</math>  <math>\underline{0}</math>  <math>0</math> </div> <div> <math>3 \overline{) 3}</math>  <math>\underline{3}</math>  <math>0</math> </div> </div>



b. Convert the following numbers to decimal:

$2B_{16}$	$1001_2$
$2B_{16} = (2 \cdot 16^1 + 11 \cdot 16^0)_{10}$ $16 \times 2 + 16 \times 1 + 16 \times 1 = (529)_{10}$	$(1001)_2 = (9)_{10}$ $2^3 \times 1 + 2^2 \times 0 + 2^1 \times 0 + 2^0 \times 1 = 9$

c. Convert the binary number  $111011011_2$  to:

Base 8	Base 16
$111011011_2 = (733)_8$ $2^3 + 2^2 + 2^1 = 7$ $2^4 + 2^3 + 2^2 = 3$ $2^5 + 2^4 + 2^3 = 3$	$111011011_2 = (1DB)_{16}$ $2^7 + 2^6 + 2^5 + 2^4 = 13$ $2^3 + 2^2 + 2^1 = 7$ $2^0 = 1$

d. Do the following operation for the binary numbers, showing all carries (if additional) or borrows (if subtraction):

a) $1111 - 0111$	b) $0111 + 0011$
$\begin{array}{r} 1111 \\ - 0111 \\ \hline 1000 \end{array}$	$\begin{array}{r} 0111 \\ + 0011 \\ \hline 1010 \end{array}$

e. Make the truth table for the following Boolean expression.

$((\text{NOT } A \text{ AND NOT } B) \text{ OR } (A \text{ AND } B))$

A	B	$\bar{A}$	$\bar{B}$	$A \cdot B$	$\bar{A} \cdot \bar{B}$	$(A \cdot B) + (\bar{A} \cdot \bar{B})$
0	0	1	1	0	1	1
0	1	1	0	0	0	0
1	0	0	1	0	0	0
1	1	0	0	1	0	1



### Question 2: True (T) or False (F)

- 1) Combinational circuits have no cycles in them, which means no outputs feed back into their own inputs. C
- 2) Truth table capture every inputs and outputs possible for circuit.

<del>F</del>
<del>T</del>

### Part 3: Database system and Application

#### Question 1: Multiple Choices

- 1) Basic data manipulation includes \_\_\_\_\_ that involves eliminating columns in relational database according to certain criteria.  
~~a. Projecting~~ ☒ ~~b. Selecting~~ ☒  
~~c. Linking~~ ☒ ~~d. Joining~~ ☒
- 2) \_\_\_\_\_ A simple but highly useful way to organize the data into collection of two-dimensional tables called relation.  
~~a. Relational model~~ ☒ ~~b. Enterprise data modelling~~ ☒  
~~c. SQL~~ ☒ ~~d. Data dictionary~~ ☒

### Question 2: Fill in the blanks

Use words from the list below to fill in the blanks

[Domain, Physical access path, Logic access path, DBMS, NoSQL, Concurrency control]

- 1) When an application requests data from the DBMS, it follows a Logic access path to the data. When DBMS access database it follows physical access path.
- 2) A Domain is the range of allowable values for a data attribute.
- 3) Databases rely on concurrency control by locking database records to ensure that other transactions do not modify the database until the first transaction succeeds or fails.

### Question 3: Fill in the blanks

Use words from the list below to fill in the blanks

[Computer program, Software bug, Embedded system, Systems software]

- 1) computer program is a sequence of instructions for the computer.
- 2) Each type of system software is designed for a specific CPU and class of hardware.

### Question 4: Short answers

- 1) Identify TWO of Green computing goals.

- 1- Lowering energy use in organizations ... (تقليل استهلاك الطاقة لدى الشركات)
- 2- reducing toxic use of materials ... (تقليل استخدام المواد السامة)
- 3- recycling ... (زيادة إعادة التدوير)

- 2) Differentiate between Multitasking and Multithreading.

more than one task on the same computer in the same time.  
more than one thread of the same program in the same time.

### Part 2: Binary Numbers, Gates and Database

#### Question 1:

- a. Convert the decimal number 24 to the following bases:

Base 2	Base 8
$24_{10} = ?_2 \rightarrow (101000)_2$ $2 \overline{) 24}$ $\underline{24}$ $0$ $2 \overline{) 12}$ $\underline{12}$ $0$ $2 \overline{) 6}$ $\underline{6}$ $0$ $2 \overline{) 3}$ $\underline{3}$ $0$ $1$	$24_{10} = (30)_8$ $8 \overline{) 24}$ $\underline{24}$ $0$ $8 \overline{) 0}$ $\underline{0}$ $0$ $3$

King Saud University	Final Exam – IS 201
College of Computer & Information Sciences	Fall 2017-2018
Dept. of Information Systems	Dec 25, 2017, Time: 2h

لا يسمح باستخدام الحاسبة. Calculator is **not** allowed.

**Question I: Determine whether each of the following sentences is True or False (14 pts)**

- MISs typically provide standard reports generated with data and information from a TPS or ERP system.
- TPS is an integrated program managing vital business operations for an entire multisite organization.
- RAID is a method of storing data so that it can be accessed more quickly.
- Application software consists of programs that help users solve particular computing problems.
- To run, applications request services from the operating system through a defined application program interface.
- Today, most organizations use the database approach to data management, where multiple information systems share a pool of related data.
- The relational DB model describes data using a standard tabular format; all data elements are placed in three-dimensional tables called relations, which are the logical equivalent of files.
- Client/server refers to a computing environment where software and storage are provided as an Internet service and accessed with a Web browser.
- HTML is the standard page description language for Web pages that tells the Web browser how to display Web pages.
- A Web portal is a Web page that combines useful information and links and acts as an entry point to the Web complete with a search engine, subject directory, daily headlines, and other items of interest.
- Copyright laws protect processes, machines, and compositions of matter.
- To protect your PC and prevent it from spreading malware to your co-workers, some antivirus software scans and cleans both incoming and outgoing e-mail messages.
- $(15)_8 = (13)_{10}$
- $(23)_{10} = (10101)_2$

**Question II: Choose the correct answer (14 pts)**

- \_\_\_\_\_ involves computers understanding and reacting on verbal or written commands in English, Spanish, or other human languages.
  - Virtual reality
  - Artificial intelligence
  - Natural language processing
  - Learning systems
- The goal of the \_\_\_\_\_ phase of systems development is to gain a clear understanding of the problem to be solved or opportunity to be addressed.
  - systems analysis
  - systems investigation
  - systems design
  - systems implementation
- An information system that operates in the \_\_\_\_\_ sphere of influence supports two or more people who work together to achieve a common goal.
  - personal
  - workgroup
  - enterprise
  - none of the above



4. An operating system with \_\_\_\_\_ capabilities allows a user to run more than one application at the same time.
  - a. networking capability
  - b. hardware independence
  - c. memory management
  - d. multitasking
5. The \_\_\_\_\_ is a description that involves "telling" the DBMS the logical and physical structure of the data and the relationships among the data for each user.
  - a. entity relationship diagram
  - b. Data model
  - c. schema
  - d. data manipulation language
6. \_\_\_\_\_ is a visual approach to developing database requests.
  - a. Query by example
  - b. SQL
  - c. Data definition language
  - d. Data manipulation language
7. Someone responsible for planning, designing, creating, operating, securing, monitoring, and maintaining databases is called a(n) \_\_\_\_\_.
  - a. data administrator
  - b. data analyst
  - c. data owner
  - d. database administrator
8. \_\_\_\_\_ Is a network protocol that enables traffic to be routed among all the networks connected to the Internet.
  - a. ISO seven layer model
  - b. TCP
  - c. IP
  - d. Wi-Fi
9. Data is broken into \_\_\_\_\_ to be transmitted over the Internet
  - a. bits
  - b. Messages
  - c. bytes
  - d. packets
10. \_\_\_\_\_ is a type of malware that executes when specific conditions occur.
  - a. Virus
  - b. Worm
  - c. Logic bomb
  - d. Trojan horse
11. A useful guideline to protect corporate computers from criminal hackers is to \_\_\_\_\_.
  - a. Install antivirus software on all computers
  - b. Avoid creating frequent backups of critical data
  - c. Remove any firewall that may have been installed between your corporate network and the Internet
  - d. Enable several guest accounts
12. \_\_\_\_\_ involves publishing an intentionally false written statement that is damaging to a person's or an organization's reputation.
  - a. Blogging
  - b. Libel
  - c. Phishing
  - d. Unfriending
13.  $(10111)_2 + (11101)_2 =$  \_\_\_\_\_.
  - a. 111001
  - b. 110100
  - c. 10110
  - d. 100111
14.  $(11010)_2 - (1101)_2 =$  \_\_\_\_\_.
  - a. 111
  - b. 1011
  - c. 1101
  - d. 1001

## Question II: Multiple


1. 2. 3. 4. 5.
- c b b d c
6. 7. 8. 9. 10.
- a d c d c
11. 12. 13. 14.
- a b b c

**Question III: Fill in the space with the correct word(s) (14 pts)**


1. \_\_\_\_\_ involves any business transactions executed electronically between companies.
2. \_\_\_\_\_ is the collection of rules, procedures, and relationships that must be followed by an expert system to achieve the proper outcome.
3. Key to the success of grid computing is a(n) \_\_\_\_\_ that acts as a grid leader and traffic monitor.
4. \_\_\_\_\_ allows more than one person to use a computer system at the same time.
5. \_\_\_\_\_ refers to the use of computing resources, including software and data storage, on the Internet rather than on local computers.
6. A(n) \_\_\_\_\_ is a field or set of fields that uniquely identifies a record.
7. \_\_\_\_\_ involves combining two or more tables in a relational database.
8. \_\_\_\_\_ lets programmers learn one powerful query language and use it on systems ranging from PCs to the largest mainframe computers.
9. \_\_\_\_\_ is an open source programming language whose code can be directly embedded into HTML code and run on a Web server.
10. \_\_\_\_\_ is a development and Web services platform from Microsoft that allows developers to use different programming languages to create and run programs.
11. A(n) \_\_\_\_\_ can be used in an enterprise to enable the sharing of information between employees, training for new employees, or customer support for products.
12. Specialized hardware and software, such as \_\_\_\_\_ devices, can be used to encode data and information to help prevent unauthorized use.
13. The science of designing machines, products, and systems to maximize the safety, comfort, and efficiency of the people who use them is called \_\_\_\_\_.
14. The \_\_\_\_\_ is the oldest computing society and boasts more than 80,000 members in more than 100 countries.

## Model Answer-Final Fall 2017


### Question I: True/False (14 pts)

1. 2. 3. 4. 5.  
T F F T T  
6. 7. 8. 9. 10.  
T F F T T  
11. 12. 13. 14.   
F T T F

### Question II: Multiple Choice (14 pts)

1. 2. 3. 4. 5.  
c b b d c  
6. 7. 8. 9. 10.  
a d c d c  
11. 12. 13. 14.   
a b b c

### Question III: Completion (15 pts)

1. E-commerce 2. knowledge base 3. central server 4. Time sharing 5. Cloud computing  
6. primary key 7. Joining 8. SQL 9. Hypertext Preprocessor (PHP) 10. .NET  
11. wiki 12. encryption 13. ergonomics 14. Association for Computing Machinery (ACM) 



**Question 1: Multiple Choice (5 pts):** Select the appropriate answer from the following MCQs.

- ✓ 1. \_\_\_\_\_ is a group of programs that provides an interface between database and user and other application programs.  
 a. Database management system ✓  
 b. database  
 c. Records  
 d. Field
- ✓ 2. Which of the following feature will NOT be considered to build a database?  
 a. Content of data collected ✓  
 b. Access will be provided to which user  
 c. Logical structure of the data to arrange ✓  
 d. Type of the operating system
- ✓ 3. Main benefits of using data base approach over other traditional approaches is \_\_\_\_\_.  
 a. Standardization of data access  
 b. data and program dependence  
 c. difficulty to access and retrieve data  
 d. reduced data integrity
- ✓ 4. In CCIS-KSU, type of network connecting within office and computer lab is \_\_\_\_\_.  
 a. Local Area Network ✓  
 b. City Area Network  
 c. Wide Area Network  
 d. Metropolitan Area Network
- ✓ 5. Type of architecture in which computers connect to switch in \_\_\_\_\_ topology.  
 a. Bus  
 b. Central  
 c. Star  
 d. Mesh
- ✓ 6. The \_\_\_\_\_ layer is responsible for file transfer protocol (FTP).  
 a. Network  
 b. Link  
 c. Transport  
 d. Application
- ✓ 7. \_\_\_\_\_ is a type of malware that executes when specific conditions occur like date and time.  
 a. Virus  
 b. Worm  
 c. Logic bomb  
 d. Trojan horse
- ✓ 8. To secure data, encryption is a mechanism to ensure \_\_\_\_\_.  
 a. Authorization  
 b. Confidentiality  
 c. Authenticity  
 d. Availability
- ✓ 9. \_\_\_\_\_ are professionals who have extra knowledge that make them dangerous - they know logon ids, passwords, and company procedures that help them evade detection.  
 a. Crackers  
 b. Hackers  
 c. Insiders  
 d. Script bunnies
- ✓ 10. \_\_\_\_\_ uses deception to fraudulently acquire sensitive personal information.  
 a. Pharming  
 b. Phishing  
 c. Deceiving  
 d. Web bugs

**Question II: Completion (10 pts):** Select the keyword from the table to complete the sentence.

<sup>1</sup> Attribute	<sup>2</sup> Peer-to-Peer	<sup>3</sup> Filtering	<sup>4</sup> Extranet	<sup>5</sup> Data dictionary	<sup>6</sup> Logical design
Front-end	Hacker	Bandwidth	Business intelligence	Structured Query Language	Object-oriented

- 11 is an ANSI standard query language for relational databases.
- 7 application used in the database model is the type that interacts with users.
- In DBMS, 5 represents abstract model of how data should be structured and arranged to meet an organization's information needs.
- 10 is the gathering the right information in a timely manner and usable form and analyzing it to have a positive impact on business and enterprise.
- 2 is the type of architecture in which each computer has equal capabilities.
- 9 refers to the rate at which data is transferred via the communication channel.
- In the relational data model, each column of a table represents a(n) 1.
- 4 allows customers or suppliers to access part of company's intranet.
- For security point of views, organizations usually implement 3 software to prevent employees from visiting websites not related to work.
- 8 is the type of professional from outside who has penetrated a computer network, usually with no criminal intent.

**Question III: True/False (5 pts):** Select the appropriate answer from the following T/Fs.

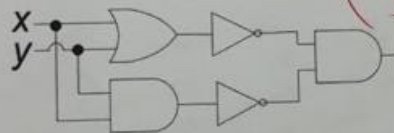
- Attribute is the characteristic of an entity or object. **T**
- Hub device is smarter than switch. **F**
- Coaxial cable is used for telephone system architecture. **F**
- Entity-relationship (ER) diagrams represent the data models that use basic graphical symbols to show the organization and relationships between data entities. **T**
- In flat file type database, fields can be separated by delimiters with comma or tab characters. **F**
- Email application is the example of a peer-to-peer (P2P) architecture. **F**
- Network in a limited geographical area such as home or office building could be a wired LAN (Ethernet) or a wireless LAN. **T**
- Switch is a network layer device. **F**
- While a virus can completely halt the operation of a computer system, it is incapable of destroying programs or data. **F**
- Web bugs are usually invisible. **T**

**IS201-Fundamentals and Ethics of Information Systems**  
**Quiz 1 v1**

Name:

Student ID:

1. Information should be complex to bring more value (True or False) **False**
2. An Information System provides feedback to meet an objective (True or False) **False**
3. Systems implementation defines system components (True or False) **False**
4. Converting or transforming data into useful outputs is called:
  - a. Output
  - b- Feedback
  - c- Processing**
  - d- Converting
  - e- Transformation
5. Management of raw materials is called:
  - a. Downstream management
  - b- Midstream management
  - c- Value chain
  - d- Upstream management**
  - e- Raw management
6. Which of the following is **NOT** an example of an information system :
  - a. Enterprise Resource Planning
  - b- Transaction Processing Systems
  - c- Management Information Systems
  - d- None of the above**
7. Find the output of the following logic circuit:



$(X+Y)'$        $(Xy)$

8. The Boolean expression  $(A + B)' + C + (A+A')$  is equivalent to:
  - a-  $(A' + C)(B' + C) + 0$
  - b-  $(A' + C) + (B' + C) + 1$
  - c-  $(A' + B') + C + 0$
  - d-  $(A' C) + (B' C) + 1$
  - e-  $(A + B + C)' + 1$
  - f-  $(A' + C)(B' + C) + 1$**
9.  $10011 + 11011 =$  101110
10.  $11011 - 10111 =$  100
11. The decimal equivalent to  $11011_2$  is: 27
12. Convert the decimal number 71 to binary: 1000111
13.  $(101011101011)_2$  to hexadecimal: AEB
14. Convert the hexadecimal number 4D3 to decimal: 1235

$(\bar{A} \bar{B} \bar{C}) \vee (AB\bar{C})$



1. Network in limited geographical area such as home or office building is called: \_\_\_\_\_
- a. Local Area Network
  - b. City Area Network
  - c. Wide Area Network
  - d. Limited Area Network

- 1/2 2. \_\_\_\_\_ is the layout of devices in network
- a. Network layout
  - b. Network structure
  - c. Network topology
  - d. Network shape

- 1/2 3. All computers and devices connect to central cable in \_\_\_\_\_ topology
- a. Bus
  - b. Central
  - c. Ring
  - d. Mesh

- 1/2 4. The \_\_\_\_\_ layer is responsible for routing
- a. Network
  - b. Link
  - c. Transport
  - d. Application

- 1/2 5. Encryption is a mechanism to ensure \_\_\_\_\_
- a. Authorization
  - b. Confidentiality
  - c. Authenticity
  - d. Availability

6. An outside person who has penetrated a computer system, usually with no criminal intent is called Hacker

7. Captcha may help to prevent \_\_\_\_\_
- a. Denial of service attacks
  - b. Back doors
  - c. Logical bombs
  - d. Hackers

8. \_\_\_\_\_ uses deception to fraudulently acquire sensitive personal information
- a. Pharming
  - b. Phishing
  - c. Deceiving
  - d. Web bugs

- 1/2 9. Internet is the world largest wide area network (T or F)

- 1/2 10. Peer to Peer networks has limited scalability compared to client-server (T or F)

- 1/2 11. Network layering simplifies the complexity of the network (T or F)

- 1/2 12. Switch is a network layer device (T or F)

13. Worms are different than viruses that they are standalone programs (T or F)

14. The right of privacy is not absolute (T or F)

- 1/2 15. Web bugs are usually invisible (T or F)

Question 1: Multiple Choice Questions (5 pts)

1. Decomposing a system and defining its components is called \_\_\_\_\_.  
a. System implementation  
b. System maintenance  
c. System design  
d. None of the above
- \* 2. Management of finished products is called \_\_\_\_\_.  
a. Downstream management  
b. Value chain  
c. Product management  
d. Upstream management
3. Which of the following is NOT an example of an information system?  
a. Enterprise Resource Planning  
b. Management Information Systems  
c. Transaction Processing Systems  
d. None of the above
4. The \_\_\_\_\_ display monitor uses the least amount of power.  
a. OLED  
b. LCD  
c. Plasma  
d. CRT
5. People using commercially available software are usually asked to read and agree to a(n) \_\_\_\_\_.  
a. copyright agreement  
b. privacy statement  
c. end-user license agreement  
d. purchase order
6. In information systems, \_\_\_\_\_ is used to make changes to input or processing activities.  
a. forecasting  
b. feedback  
c. output  
d. processing
7. A student buying a product from an E-Commerce website is an example of \_\_\_\_\_.  
a. B2B  
b. C2C  
c. B2C  
d. B2G
8. \_\_\_\_\_ are components outside computer case  
a. Peripherals  
b. Outside components  
c. System unit  
d. None of the above.
9. \_\_\_\_\_ is (are) considered to be the most important element in a computer-based information system.  
a. Keyboard  
b. Software  
c. Procedures  
d. People
10. The goal of the \_\_\_\_\_ phase of systems development is to gain a clear understanding of the problem to be solved or opportunity to be addressed.  
a. systems analysis  
b. systems investigation  
c. systems design  
d. systems implementation

## Transaction Prog system Application programming interface

### Question II: Completion (5 pts)

Select the appropriate keyword from the matching table to complete the sentence.

Knowledge	Enterprise	Procedures	Transaction	TPS
Time	Cloud Computing	logical *	High Speed	API
Input	Database	Processing		

- Storage Area network is a special-purpose, high-speed network that provides High Speed connectivity among data storage devices and computers over a network.
- The ALU unit performs mathematical calculations and makes logical comparisons.
- cloud computing refers to the use of computing resources, including software and data storage, on the Internet rather than on local computers.
- Time sharing, allows more than one person to use a computer system at the same time.
- API allows applications to make use of the operating system.
- E commerce involves any business Transaction executed electronically between companies.
- TPS is an organized collection of people, procedures, software, databases, and devices used to record completed business transactions.
- A(n) Enterprise resource planning is a set of integrated programs that manages the vital business operations for an entire multisite, global organization.
- Database is an organized collection of raw facts and information.
- Knowledge is the activity of gathering and capturing raw data.

### II. Question III: True/False (5 pts)

- Secondary storage is usually non-volatile while main memory is volatile. T
- The CPU registers store data permanently. F
- A Petabyte is  $(1024 * 1024)$  GB. F Tera
- Sequential access is faster than Direct access. F \*
- Command-based user interface uses icons to interact with users. T
- Mouse is an example of an output device. F
- The technology infrastructure is a set of shared IS resources that form the foundation of each computer-based information system. T \*
- DSSs typically provide standard reports generated with data and information from a TPS or ERP system. T
- Mobile commerce is the use of mobile, wireless devices to place orders and conduct business. T
- The degree to which an organization supports its use is an important factor that can lead to better attitudes about an information system. T

$$40 + 16 + 3$$

$$\frac{4 \times 2^8 \cdot 8}{2 \times 2 \times 2 \times 2 \times 2} = 32$$

**Question IV: Binary Logic and conversion (5 pts)**

1.  $(110111)_2$  to  $(59)_{10}$

2.  $11011 - 01101 = 01110$

3.  $(101011101)_2$  to  $(539)_8$

4. The Boolean expression for the following table is  $(\bar{A} \cdot \bar{B} \cdot \bar{C}) + (A \cdot \bar{B} \cdot \bar{C}) + (A \cdot B \cdot C)$ .

A	B	C	Output
0	0	0	0
0	1	1	0
0	1	0	1
0	0	1	0
1	0	0	1
1	1	1	1
1	1	0	0
1	0	1	0

$$\rightarrow (\bar{A} \cdot B \cdot \bar{C})$$

$$\rightarrow (A \cdot \bar{B} \cdot \bar{C})$$

$$\rightarrow (A \cdot B \cdot C)$$

5. The Boolean expression  $A \cdot B + A(B+C) + B(B+C)$  is equivalent to \_\_\_\_\_.

a.  $(B + A \cdot C)$

c.  $(B \cdot C + A \cdot C)$

b.  $(A \cdot B + A \cdot C)$

d.  $(A' + B')(A + B)$

$$543210$$

$$110111$$

$$1 \times 2^5 + 1 \times 2^4 + 1 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + 1 \times 2^0$$

$$= 1 \times 32 + 1 \times 16 + 1 \times 8 + 1 \times 4 + 1 \times 2 + 1 \times 1 = 59$$



## Part 2: Network Telecommunication and Networks

### Question 1: Multiple Choice

- 1) Twisted-pair wire has a limited distance and transmission speed and can be used for telephone services.
- a. Twisted-pair wire  
b. Coaxial cable  
c. Fiber-optic cable  
d. Microwave signal
- 2) Which wireless communication technology has the smallest frequency range?
- a. Microwave frequency  
b. Infrared frequency  
c. Radio frequency  
d. All operate in the same range
- 3) Consider KSU-CCIS labs that contain computer systems connected in a network to form a LAN.
- a. PAN ×  
b. MAN  
c. WAN ×  
d. LAN
- 4) Which of the following telecommunication devices serve as an entrance to another network with different protocols.
- a. PBX  
b. Bridge  
c. Gateway  
d. Router
- 5) In web development, which markup language used to define the visual appearance of web pages?
- a. HTML ×  
b. XML ×  
c. CSS  
d. JavaScript ×

### Question 2: True (T) or False (F)

1) We will be moving from 4G to 5G wireless communication in the near future, which promises many standards including lower power <u>consumption</u> → استهلاك	T
2) Web 2.0 is a two-directional resource.	T

## Part 1: Database system and Application

### Question 1: Multiple Choice

- 1) \_\_\_\_\_ is an application that interact directly with people.
- a. Back end
  - ☒ b. Front end
  - c. Spin-off
  - d. None of the above

- 2) A technique used by businesses to collect information about competitors, which will affect their tactics, strategy and operations.
- a. KPIs
  - ☒ c. Competitive intelligence
  - b. Dashboard
  - ☒ d. Counter-intelligence

### Question 2: True (T) or False (F)

1) A Data Mart is a subset of a data warehouse that is used by small- and medium-sized businesses and departments within large companies to support decision-making.	<input checked="" type="radio"/> T
2) The unique feature of In-memory Database (IMDB) is that it stores the entire database in <u>external</u> hard drives. <u>RAM</u>	<input checked="" type="radio"/> F
3) Organizations usually <u>hire</u> a database administrator, which is a nontechnical position to be responsible for content of the database.	<input checked="" type="radio"/> F

### Question 3: Fill in the blanks

Use words from the list below to fill in the blanks

[Data mining, Big data, Data Mart, Online Analytical Processing (OLAP)]

- 1) OLAP is a form of database processing that supports top-down, query-driven data analysis.
- 2) There are three characteristics associated with Big Data which are volume, velocity and variety.

## Part 1: Hardware and Software

### Question 1: Multiple Choices

- 1) \_\_\_\_\_ is a simple type of computer system (including some sort of processor) that is implanted in and dedicated to the control of another device.
- a. Enterprise operating system
  - ~~b. Embedded operating system~~
  - c. Workgroup operating system
  - d. Mobile operating system
- 2) Which of the following is the name of a technology that employs a microchip with an antenna to broadcast its unique identifier and location to receivers.
- ~~a. Radio Frequency Identification (RFID)~~
  - b. Smart Card
  - c. Point-of-sale
  - d. Speech Recognition
- 3) A low-cost, centrally managed computer with essential but limited capabilities and no extra drives (such as CD or DVD drives) or expansion slots
- a. Laptop ✗
  - ~~b. Nettop~~
  - c. Desktop ✗
  - d. Thin Client
- 4) Which of the following is NOT a component of the central processing unit (CPU)
- ~~a. Memory (register)~~
  - b. Arithmetic/Logic unit ✓
  - c. Control Unit ✓
  - d. None of the above

### Question 2: True (T) or False (F)

- 1) Random Access Memory (RAM) is a non-volatile permanent storage. ✓
- 2) Hardware independence allows software development without understanding the inner workings of the operating system. ✓

F
T



**Question 2: True (T) or False (F)**

1) A script bunny is a professional computer hacker.	<del>F</del>
2) The biggest threat for many companies are <u>Insiders</u> because they have <u>access</u> and <u>credentials</u> to the company network.	<del>T</del>
3) For a person to conduct social engineering attack, he must have enough <u>technical</u> and computer skills to bypass security measures.	<del>F</del>

**Question 3: Short answers**

1) List Four types of malware and identify a unique property that distinguish it from the others

trojan horse → the user does not tell of it ..

virus → continue effecting others computers ..

worm → destroys all system ..  
computer

2) Give a real world example of a cyberterrorism attack and explain why it is considered cyberterrorism.

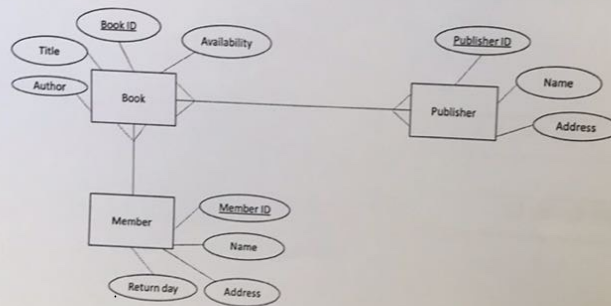
.. مثال ← what happened when u.s and israeli created a program  
to spy on the nuclear weapons in iran ..  
الاستخبارات

.. تعريف ← cyberterrorism: intermedition of government or civilian nation  
by using information technologies to achieve a political and  
religious and civil goals ..

.. مثال ← and what u.s and israeli do is flirting iran's government ..

**Question 3:**

a. Consider the following diagram which represents a database:



1. In figure above the relationship between **Book** and **Member** is called many to 1.
2. In the figure above: **Book ID**, **Member ID** and **Publisher ID** are Primary Key.

*E-R diagram 5*

3) Caesar Cypher

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
5  
1 2 3 4

1. Identify the key.

Plain text: SECRET

Encrypted text: WIGVIX

Key = 4

2. Encrypt the following message

Plain text: BAG

Encrypted text: GFL

Key = 5

End of Exam ☺



### Question 3: Fill in the blanks

Use words from the list below to fill in the blanks

[Computer program, Software bug, Embedded system, Systems software]

- 1) Computer program sequences of instructions for the computer.
- 2) Each type of system software is designed for a specific CPU and class of hardware.

### Question 4: Short answers

- 1) Identify TWO of Green computing goals.

1- Lowering energy use in organizations .. (تقليل استهلاك الطاقة)  
 2- reducing toxic use of materials (تقليل استخدام المواد السامة)  
 3- recycling (إعادة التدوير) ..

- 2) Differentiate between Multitasking and Multithreading.

more than one task on the same computer in the same time ..  
 more than one thread of the same program in the same time ..

### Part 2: Binary Numbers, Gates and Database

#### Question 1:

- a. Convert the decimal number 24 to the following bases:

Base 2	Base 8
$24_{10} = ? \rightarrow (101000)_2$ $2 \overline{) 24}$ $\underline{24}$ $0$ $2 \overline{) 12}$ $\underline{12}$ $0$ $2 \overline{) 6}$ $\underline{6}$ $0$ $2 \overline{) 3}$ $\underline{3}$ $0$ $1$	$24_{10} = (30)_8$ $8 \overline{) 24}$ $\underline{24}$ $0$ $8 \overline{) 0}$ $\underline{0}$ $0$ $3$

### Question 3: Fill in the blanks

Use words from the list below to fill in the blanks

[ Green Computing, Software bug, Embedded system, Proprietary software]

- 1) Efficient environment, recycling and reduce harmful materials are all concerns of Green computing
- 2) Unexpected termination of a program is one of the problems caused by a Software bug

### Question 4: Short answers

- 1) Identify TWO advantages of the use of solid state secondary storage devices (SSDs) over magnetic or optical media

1- greater capacity

تسعة كبيرة

2- Non Volatile

غير متطايرة

- 2) Differences between Sequential access and direct access and give one example of devices that use these methods.

Sequential access

direct access

DVD

USB

Access to data as it's stored

Access to data directly

### Part 2: Binary Numbers, Gates and Database

#### Question 1:

Convert the decimal number 28 to the following bases:

Base 2 binary	Base 8 octal																					
<table><tr><td>8</td><td>2</td><td>0</td></tr><tr><td>4</td><td>2</td><td>0</td></tr><tr><td>2</td><td>2</td><td>0</td></tr><tr><td>1</td><td>2</td><td>1</td></tr></table>	8	2	0	4	2	0	2	2	0	1	2	1	<table><tr><td>28</td><td>8</td><td></td></tr><tr><td>8</td><td>3</td><td>2</td></tr><tr><td>4</td><td></td><td></td></tr></table>	28	8		8	3	2	4		
8	2	0																				
4	2	0																				
2	2	0																				
1	2	1																				
28	8																					
8	3	2																				
4																						

Question 2: True (T) or False (F)

Logic gates are hardware devices built from transistors to mimic Boolean logic.  
A truth table captures every input possible for circuit.

### 3: Database system and Application

#### Question 1: Multiple Choices

Basic data manipulation includes \_\_\_\_\_ that involves eliminating data from a database according to certain criteria.

- a. Projecting
- b. Selecting
- c. Linking
- d. Joining

\_\_\_\_\_ is a special-purpose programming language for accessing data stored in a relational database.

- SQL
- b. DDL
- NoSQL
- d. Data dictionary

#### Question 2: Fill in the blanks

Choose words from the list below to fill in the blanks

*Data cleansing, Data validation, DMBS, NoSQL, Data mining*

cleansing involves the identification of "bad data".



**Question 1: Multiple Choices [3 points]**

- ✓ 1) \_\_\_\_\_ has a limited distance and transmission speed and can be used for telephony services
- a. Twisted-pair wire ✓
  - b. Microwave signal
  - c. Fiber-optic cable
  - d. Coaxial cable
- ✓ 2) \_\_\_\_\_ is part of domain names that are dedicated to business sites.
- a. .org
  - b. .net
  - c. .gov
  - d. .com ✓
- ✓ 3) In web pages, \_\_\_\_\_ is the standard page description language.
- a. Cascade style sheet (CSS)
  - b. Java script
  - c. Extensible Markup Language (XML)
  - d. Hypertext mark-up language (HTML) ✓
- ✓ 4) Which of the following is a consideration you should take into account when building a database?
- a. Access
  - b. Content
  - c. Physical organization
  - d. All the above ✓
- ✓ 5) \_\_\_\_\_ is used to perform data retrieval and updates.
- a. Data definition language (DDL)
  - b. Query by example (QBE)
  - c. Data manipulation language (DML) ✓
  - d. Data conversion language (DCL)
- ✓ 6) \_\_\_\_\_ is a visual approach to developing database queries or request.
- a. Structured query language (SQL)
  - b. Query by example (QBE) ✓
  - c. Not only SQL (NoSQL)
  - d. Data definition language (DDL)

Question 4: Short answers [5 points]

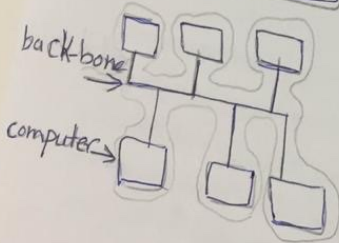
Question 4: Short answers (5 points)  
1) Online Analytical Processing (OLAP) and Data mining are both technologies used in business intelligence applications. Compare the two techniques.

OLAP		Data Mining	
Characteristic	to support <del>design</del> <del>making</del> <del>the</del> <del>data</del> <del>mining</del>	to support <del>and</del> <del>Design</del> <del>making</del> <del>the</del> <del>data</del> <del>mining</del>	
Purpose	<del>to support the data mining</del> <del>to support the data mining</del>	<del>to support the data mining</del>	
Type of analysis supported	<u>Top-down</u> <u>query-driven</u>	<u>bottom-up</u> <u>discovery driven</u>	
Skills required of user	<del>create and</del> <del>spec</del> <del>the user should</del>	the user should <del>discover and</del> <del>about the data</del>	

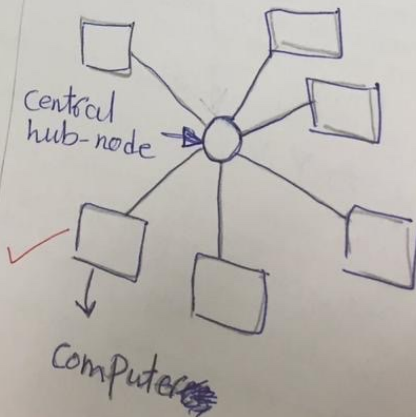
2) Name and Draw Two network topology

2) Name and Draw Two network topology

bus-network



## Star network



...es used in business

Q 5: Match column A with column B [5 points]

COLUMN [A]	COLUMN[B]
1. Attribute ✓	A. Connects one LAN to another LAN that uses the same telecommunication protocol. ✓
2. Gateway ✓	B. Converts digital signals to analogue signals and vice versa. ✓
3. Bridge ✓	C. A communications standard that enables traffic to be routed from one network to another as needed. ✓
4. File ✓	D. Value of an attribute ✓
5. Internet ✓	E. Allows customers or suppliers to access part of company's intranet ✓
6. Selecting ✓	F. A collection of related records ✓
7. Extranet ✓	G. Is World's largest WAN ✓
8. Data item ✓	H. Eliminating rows according to certain criteria ✓
9. Internet Protocol (IP) ✓	I. Is a characteristic of an entity ✓
10. A modem ✓	J. A network device that serves as an entrance to another network. ✓

Answer

COLUMN [A]	COLUMN[B]
1	I ✓
2	J ✓
3	A ✓
4	F ✓
5	G ✓
6	H ✓
7	F ✓
8	D ✓
9	C ✓
10	B ✓

End of Exam



## Question 2: True (T) or False (F) [4 points]

- Joining Table A (4 Columns) with Table B (3 Columns) will result a Table with 6 Columns.
- 1) A router is a telecommunication devices that allow several telecommunication signals to be transmitted over single communication medium at the same time, thus saving expensive long-distance communication cost.
  - 2) The DBMS can interact with other programs and applications. This is called the front-end approach.
  - 3) NoSQL databases enforce ACID properties and can work with Big data.
  - 4) In the database approach to data management each distinct operational system uses data files dedicated to that system. *for additional*
  - 5) Horizontal portals are pages that provide information and links for special-interest groups. *vertical*
  - 6) Digital rights management (DRM) is a technology to limit the user's ability to make copies of copy right protected content.
  - 7) Near Field Communication (NFC) is a very short-range wireless connectivity technology.

T	✓
F	✓
F	✓
F	✓
F	✓
F	✓
T	✓
T	✓

## Question 3: Fill in the blanks [3 points]

Use words from the list below to fill in the blanks

[In-Memory Databases, Primary Key, Foreign Key, Predictive Analysis, Geo-Tagging, Geographic information systems (GIS), PAN, MAN, LAN, Network Operating System, Network Management Software]

- GIS
- 1) Geographic information systems is the process of adding geographical identification to media.
  - 2) MAN connects users and their devices in an area that spans a campus or city.
  - 3) To link two relations (Tables) together, Primary Key is copied from the first table to the second table.
  - 4) Network Operating System performs best on multiple multicore central processing units (CPUs) that can process parallel requests to the data.
  - 5) Predictive Analysis combines historical data with assumptions about future conditions.
  - 6) Network Management Software systems software that controls the computer systems and devices on a network.
- Net work Management Software

Question 2: True (T) or False (F)

Transistors are hardware devices built from transistors to mimic Boolean logic.

Truth tables capture every input possible for circuit.

### 3: Database system and Application

#### Question 1: Multiple Choices

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~~Cleansing~~ involves the identification of "bad data".

## Part 1: Hardware and Software

### Question 1: Multiple Choices

- 1) \_\_\_\_\_ is a simple type of computer system (including some sort of processor) that is implanted in and dedicated to the control of another device.
- a. Enterprise operating system
  - ☒ b. Embedded operating system
  - c. Workgroup operating system
  - d. Mobile operating system
- 2) Which of the following is the name of a technology that employs a microchip with an antenna to broadcast its unique identifier and location to receivers.
- ☒ a. Radio Frequency Identification (RFID)
  - b. Smart Card
  - c. Point-of-sale
  - d. Speech Recognition
- 3) A low-cost, centrally managed computer with essential but limited capabilities and no extra drives (such as CD or DVD drives) or expansion slots
- a. Laptop ✗
  - ☒ b. Nettop
  - c. Desktop ✗
  - d. Thin Client
- 4) Which of the following is NOT a component of the central processing unit (CPU)
- ☒ a. Memory (register)
  - b. Arithmetic/Logic unit ✓
  - c. Control Unit ✓
  - d. None of the above

### Question 2: True (T) or False (F)

- 1) Random Access Memory (RAM) is a non-volatile permanent storage. ✗
- 2) Hardware independence allows software development without understanding the inner workings of the operating system. ✓

F
T



$\frac{3}{3}$

**Question 5 (CLO 6): Short answers [3 points]**

1. List four types of computer-related mistakes.

- Unexpected Error
- Error by developer
- Wrong choice capacity for computer action
- Error by user
- Error in the output / Entire data

2. How can we prevent computer-related waste and mistakes?

- Establish policies and procedures
- Implement policies and procedures
- Control policies and procedures
- Overview on policies and procedures

3. Identify and briefly discuss two specific information systems that are used to fight crime.

- تتبع عرق - ~~Justice Change~~ : give information of criminal / Car number
- تتبع عرق - Leads Online : for items steal
- offender watch : give information of criminal, sex crime

**End of Exam**

**Question 1 (CLO 3): True (T) or False (F) [4 points]**

- 1) The unique feature of In-memory Database (IMDB) is that it stores the entire database in external hard drives.
- 2) DRM is a technology to limit the user's ability to make copies of copy right protected content.
- 3) The DBMS can interact with other programs and applications. This is called the front-end approach.
- 4) NoSQL databases enforce ACID properties and can work with Big data.
- 5) In the database approach to data management each distinct operational system uses data files dedicated to that system.
- 6) To link two relations (Tables) together the Primary Key is copied from the first table to the second table.
- 7) Competitive intelligence describes the steps an organization takes to protect information sought by "hostile" intelligence gatherers.
- 8) Predictive Analysis combines historical data with assumptions about future conditions.

T	X
T	-
F	-
T	X
T	X
T	-
F	-
T	-

**Question 2 (CLO 5): Fill in the blanks [5 points]**  
Use words from the list below to fill in the blanks

*Multiple choice*  
[PAN, MAN, LAN, Geo-Tagging, GIS, Network Management Software, Network Operating System, Near Field Communication (NFC), Internet Protocol (IP), Horizontal portals, Vertical portals, Router, Gateway, Bridge, Social networking, Rich Internet applications, Web portals]

- 1) Geo-Tagging is the process of adding geographical identification to media.
- 2) MAN connects users and their devices in an area that spans a campus or city.
- 3) NFC is a very short-range wireless connectivity technology.
- 4) Gateway is a network device that serves as an entrance to another network.
- 5) Bridge is a device that Connects one LAN to another LAN that uses the same telecommunication protocol.
- 6) Rich Internet application is a software that run in a Web browser and has the functionality and complexity of traditional application software.
- 7) Network operating systems software that controls the computer systems and devices on a network.
- 8) Vertical portal are pages that provide information and links for special-interest groups.
- 9) Multiplexer is a telecommunication device that allow several telecommunication signals to be transmitted over single communication medium at the same time, thus saving expensive long-distance communication cost.
- 10) IP is a communications standard that enables traffic to be routed from one network to another as needed.

*critical Portal  
Social network*

Question 2: True (T) or False (F)

1) A script bunny is a professional computer hacker.	<del>F</del>
2) The biggest threat for many companies are <u>Insiders</u> because they have <u>access</u> and <u>credentials</u> to the company network.	<del>T</del>
3) For a person to conduct social engineering attack, he must have enough <u>technical</u> and computer skills to bypass security measures.	<del>F</del>

Question 3: Short answers

1) List Four types of malware and identify a unique property that distinguish it from the others

trojan horse → the user does not tell of it ..

virus → continue effecting other computers ..

worm → destroys all system ..  
computer

2) Give a real world example of a cyberterrorism attack and explain why it is considered cyberterrorism.

.. مثال ← what happened when u.s and israeli created a program to spy on the nuclear weapons in iran ..  
الاستخبارات

.. تعريف ← cyberterrorism: intimidation of government or civilian nation by using information technologies to achieve a political and religious and social goals ..

.. ملاحظة ← and what u.s and israeli doing is threatening iran's government ..  
التهديد



### Question 3: Fill in the blanks

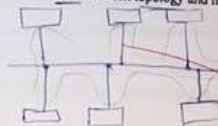
Use words from the list below to fill in the blanks

[IP, Horizontal, Mesh, Vertical, HTTP, Star, Cooperative, Domain Name]

- 1) Mesh is a network topology that does not suffer from a single point of failure.
- 2) Yahoo is considered a Horizontal web portal and Askman.com is considered a Vertical web portal.
- 3) Each computer on the Internet has an assigned address called IP.

### Question 4: Short answers

1) Draw a BUS network topology and mention its drawback.



drawback:- failure if any ~~tiny~~ error or error show in backbone all the computers stop and it needs lots of Backbone control

### Part 3: The Personal and Social impact of Computers

#### Question 1: Multiple Choice

- 1) The first step to prevent computer-related waste is to
  - a. Ensure that users throughout an organization are following established procedures. ✗
  - b. Establish policies and procedures regarding efficient acquisition, use, and disposal of systems and devices. ✓
  - c. Review existing policies and procedures and determine whether they are adequate. ✗
  - d. Check whether current policies cover existing practices adequately. ✗
- 2) A \_\_\_\_\_ is the person whose main goal is to gain unauthorized or illegal access to a computer system to conduct malicious actions.
  - a. Hacker ✗
  - b. Script bunny ✓
  - c. Cracker ✗
  - d. Social Engineering ✗

## Part 2: Network Telecommunication and Networks

### Question 1: Multiple Choice

- 1) Twisted-pair wire has a limited distance and transmission speed and can be used for telephone services.
  - a. Twisted-pair wire
  - b. Coaxial cable
  - c. Fiber-optic cable
  - d. Microwave signal
- 2) Which wireless communication technology has the smallest frequency range?
  - a. Microwave frequency
  - b. Infrared frequency
  - c. Radio frequency
  - d. All operate in the same range
- 3) Consider KSU-CCIS labs that contain computer systems connected in a network to form a LAN.
  - a. PAN
  - b. MAN
  - c. WAN
  - d. LAN
- 4) Which of the following telecommunication devices serve as an entrance to another network with different protocols?
  - a. PBX
  - b. Bridge
  - c. Gateway
  - d. Router
- 5) In web development, which markup language used to define the visual appearance of web pages?
  - a. HTML
  - b. XML
  - c. CSS
  - d. JavaScript

### Question 2: True (T) or False (F)

1) We will be moving from 4G to 5G wireless communication in the near future, which promises many standards including lower power <u>consumption</u> .	T
2) Web 2.0 is a two-directional resource.	T

5/5

Question 4 (CLO 6): Match column A with column B [5 points]

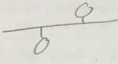

COLUMN [A]	COLUMN[B]
1. Cracker H	A. An inexperienced hacker who download programs that automate the job of breaking into computers
2. Script bunny A	B. Software installed on a personal computer to intercept or take partial control of the user's interaction with the computer without the knowledge or permission of the user
3. Malware F	C. Going through the trash of an organization to find secret or confidential information
4. Spyware	D. A scam that attempts to steal an individual's private information by having them call a phone number and enter personal data
5. Password sniffer G	E. A malware designed to steal money directly from ATM machines
6. Phishing I	F. Software programs that when loaded into a computer system will destroy, interrupt, or cause errors in processing
7. Vishing J	G. A small program hidden in a network that records identification numbers and passwords
8. Dumpster diving	H. The person whose main goal is to gain unauthorized or illegal access to a computer system to conduct malicious actions
9. Identity Theft J	I. The perpetrator sends an email that looks as if it came from a legitimate institution
10. Ploutus E	J. An imposter obtains personal identification information in order to impersonate someone else

Use the table below to answer the question:

COLUMN [A]	COLUMN[B]
1	H
2	A
3	F
4	B
5	G
6	I
7	D
8	C
9	J
10	E

Question 3 (CLO 5): Comparisons [3 points]

1) Network topology is a diagram that indicates how the communications links and hardware devices of the network are arranged. Differentiate between two types of network topologies by specifying the name and drawing a diagram for the network topology.

	Network topology 1	Network topology 2
Name	Bus network	Mesh network
Diagram		

2) Differentiate between centralized processing, decentralized processing and distributed processing in terms of location and communication.

Processing Alternatives	Location	Communication
Centralized processing	occur on one location (single)	no communication
Decentralized processing	more than one various location (multiple)	they cannot be connected
Distributed processing	more than one location (multiple)	they can be connect with each other



## Question Completion Status:

### QUESTION 1

Whenever an act is considered ethical it must also be legal

- ☐ True
- ☒ False –

### QUESTION 2

Right of paternity is the right to object to disrespectful treatment of a work

☒ False

## QUESTION 2

Right of paternity is the right to object to disrespectful treatment of a work

☐ True

☒ False —

## QUESTION 3

NoSQL databases have deficiency in strong data consistency

☐ True

### QUESTION 3

NoSQL databases have deficiency in strong data consistency

- ☐ True
- ☒ False

### QUESTION 4

In a <sup>bus</sup> star topology, All devices on the network can "see" the message, but only the intended recipient accepts and processes the message

- ☐ True
- ☒ False

### QUESTION 5

For a person to conduct social engineering attack, he must have enough technical and computer skills to bypass security measures.

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers



### QUESTION 5

social skills

For a person to conduct social engineering attack, he must have enough technical and computer skills to bypass security measures.

☐ True

☒ False

### QUESTION 6

ETL process is vital in data warehouse to ensure the quality of the data.

☒ True

☐ False

### QUESTION 7

Channel bandwidth is usually measured in byte/sec

☐ True

☐ False

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Save All Answers

☐ True

☐ False

---

### QUESTION 7

Channel bandwidth is usually measured in byte/sec <sup>bit</sup>

☐ True

☒ False —

---

### QUESTION 8

Accuracy Issues involves collecting, storing and disseminating information about

المؤسسة لدعم اتخاذ القرارات الإدارية

- **ETL process** تأخذ المعلومات -  
التي تأتي من مصادر مختلفة ويحولها
  - **Extract** استخراج
  - **Transform** تحول
  - **Load** حمل

Accuracy Issues involves collecting, storing and disseminating information about individuals.

- ☐ True
- ☐ False

#### QUESTION 9

1 po

A set of principles and core values that are important to a set of people and thus governs their behavior is called code of ethics

- ☒ True
- ☐ False

*Click Save and Submit to save and submit. Click Save All Answers to save all answers.*

Save All Answers

Close Window



☐ False

---

### QUESTION 10

which wireless communication technology has the highest frequency range

- ☐ A. Microwave frequency
- ☒ B. Infrared frequency —
- ☐ C. Radio frequency
- ☐ D. All operate in the same range

*Click Save and Submit to save and submit. Click Save All Answers to save all answers.*

- ☐ D. All operate in the same range
- 

### QUESTION 11

Which of the following is considered to be a telecommunications medium?

- ☐ A. Fiber-Optic cable
- ☐ B. Coaxial Cable
- ☐ C. Twisted-Pair wire
- ☒ D. All of the above —
- 

### QUESTION 12

Which of the following is considered Ethical?

Click Save and Submit to save and submit your answers. You can click the flag icon to mark a question for review.

Remaining Time: 1 hour, 38 minutes, 06 seconds.

Question Completion Status:

- ☐ D. All of the above

QUESTION 12

Which of the following is considered Ethical?

- ☒ A. Student downloads a video from a website to place in  
? ☐ B. Student makes a copy of software borrowed from her  
☐ C. Student use a copy and paste command to place large t  
☐ D. Student uses her friend's computer without her permission

QUESTION 13

When unwanted actions happens within the computer system it is probably caused by:

- ☐ A. Hacking

Click Save and Submit to save and submit. Click Save All Answers to save all answers.

Type here to search







Remaining Time: 1 hour, 37 minutes, 01 second.

≡ Question Completion Status:

### QUESTION 13

When unwanted actions happens within the comput is probably caused by:

- ☐ A. Hacking
- ? ☐ B. Script bunny
- ☐ C. Spyware
- ☒ D. All of the above



### QUESTION 14

Sarah is a student at KSU; she's searching for a book university's library has the desired book. The site the the book she wants is available or not. The interaction

- A. Front-end application
- B. Back-end application



#### QUESTION 14

Sarah is a student at KSU; she's searching for a book of one of her courses. She connects to KSU Web site to find out whether the university's library has the desired book. The site then interacts with a database that contains a list of library books to determine whether the book she wants is available or not. The interaction with DBMS in this example is:

- ☐ A. Front-end application
- ☐ B. Back-end application
- ☒ C. A and B
- ☐ D. None of the above

Smishing

#### QUESTION 16

MEED Mini-Market is a company that operates over 500 stores in Saudi Arabia and is present in 10 cities each store is managed to meet local retail conditions. Which of the following processing types is most suitable for MEED:

- ☐ A. Centralized processing
- ☒ B. Decentralized processing ~
- ☐ C. Distributed processing
- ☐ D. None of the above

#### QUESTION 17

Greater emphasis is being placed on prevention and detection of computer crime by :

*Click Save and Submit to save and submit. Click Save All Answers to save all answers.*

Save All Answers

Close Wi



lms.ksu.edu.sa/webapps/assessment/take/launch.jsp?course



Remaining Time: 1 hour, 14 minutes, 50 seconds.

Question Completion Status:

### QUESTION 17

Greater emphasis is being placed on prevention and detection of

- ☐ A. Private users
- ☐ B. Companies
- ☐ C. Employees
- ☒ D. All of the above —

### QUESTION 18

Data Administrator is a skilled and trained IS professional who :

- ☐ A. Works with users to define their data needs.
- ☐ B. Tests and evaluates databases.
- ☐ C. Implements changes to improve their databases' performance.

Click Save and Submit to save and submit. Click Save All Answers to save



Type here to search



Remaining Time: 1 hour, 19 minutes, 09 seconds.

❖ Question Completion Status:

None of the above

QUESTION 17

Greater emphasis is being placed on prevention and detection of computer crime by :

- ☐ A. Private users
- ☐ B. Companies
- ☐ C. Employees
- ☒ D. All of the above

QUESTION 18



≡ Question Completion Status:

- ☐ C. Employees
- ☒ D. All of the above

QUESTION 18

Data Administrator is a skilled and trained IS professional

- ☐ A. Works with users to define their data needs.
- ☐ B. Tests and evaluates databases.
- ☐ C. Implements changes to improve their databases' performance.
- ☐ D. Assures that data is secure from unauthorized access.
- ☒ E. All of the Above
- ☐ F. None of the above —

QUESTION 19

*Click Save and Submit to save and submit. Click Save All Answers*

🔍 Type here to search



Question Completion Status:

☒ E. All of the Above

☐ F. None of the above

**QUESTION 19**

An example of cloud computing is/are:

☐ A. Gmail

☐ B. iCloud

☐ C. Google drive

☐ D. A & B

☒ E. B & C

☐ F. All of the above

**QUESTION 20**

An example of Rich Internet Application

☐ A. Windows

Click Save and Submit to save and submit. Click Save All Answers

### QUESTION 19

An example of cloud computing is/are:

- ☒ A. Gmail
- ☐ B. iCloud
- ☐ C. Google drive
- ☐ D. A & B
- ☐ E. B & C
- ☐ F. All of the above

2. (a)  $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$



## QUESTION 20

An example of Rich Internet Application

- ☐ A. Windows
- ☐ B. Google Docs —
- ☐ C. Google Chrome
- ☐ D. Youtube



---

### QUESTION 21

Ahmed invents a new a product. In order for him to protect his invention, he needs to apply for

- ☐ A. None of the above
- ☒ B. Patent
- ☐ C. Design right
- ☐ D. Copyright

---

### QUESTION 22

A hacker steals Sarah's personal identification information to use it to impersonate her. This is

### QUESTION 23

69.32.133.11 is an example of:

- ☐ A. URL
- ☐ B. TCP
- ☐ C. ISP
- ☐ D. IP Address

#### QUESTION 24

**what is the malware type defined for each scenario below:**

1-Salma Installed a software which advertises to be a calendar designer, but after installing it some system files were deleted.

✓ Trojan Horse ▾

2- I don't need a carrier to move around systems, and the user's interaction to activate my payload to infect the computer.

✓ Worm ▾

3-Ahmad was fired from the company he works for. After three months, all servers were shut down and payroll records were all deleted. Logic bomb ▾ ✓

4- I do need a carrier to move around systems, and the user's interaction to activate my payload to infect the computer.

✓ Virus ▾

#### QUESTION 25

Consider the below table "Doctor" for questions A and B

DoctorID	DoctorName	Hospital	Salary
----------	------------	----------	--------



## QUESTION 24

**what is the malware type defined for each scenario below:**

1-Salma Installed a software which advertises to be a calendar designer, but after installing it some system files were deleted.

Logic bomb

2- I don't need a carrier to move around systems, and the user's interaction to activate my payload to infect the computer.

3-Ahmad was fired from the company he works for. After three months, all servers were shut down and payroll records were all deleted.

4- I do need a carrier to move around systems, and the user's interaction to activate my payload to infect the computer.

- ✓
- Logic bomb
- Rootkit
- Trojan Horse
- Virus
- Variant
- Worm

Consider the below table "Doctor" for questions A and B



### QUESTION 12

Which of the following is considered Ethical?

- ☒ A. Student downloads a video from a website to place in her web page and provide reference.
- ☐ B. Student makes a copy of software borrowed from her friend.
- ☐ C. Student use a copy and paste command to place large text from the internet in her research paper.
- ☐ D. Student uses her friend's computer without her permission.

b. SELECT \* FROM Doctor WHERE Salary > 7000;

## 4. The Four Categories of Ethical Issues

→ Privacy  
→ Accuracy  
→ Property  
→ Accessibility

- **Privacy Issues** involves collecting, storing and disseminating information about individuals.
- **Accuracy Issues** involves the authenticity, fidelity and accuracy of information that is collected and processed.
- **Property Issues** involves the ownership and value of information.
- **Accessibility Issues** revolve around who should have access to information and whether they should have to pay for this access.



☐ F. None of the above

### QUESTION 19

An example of cloud computing is/are:

☐ A. Gmail

☒ B. iCloud

☐ C. Google drive

☐ D. A & B

☐ E. B & C

☐ F. All of the above

### QUESTION 20

*Click Save and Submit to save and submit. Click Save All Answers to save all answers.*

Type here to search




## Information Systems

- **Code of ethics:** states the principles and core values that are essential to a set of people and thus governs their behavior

• Channel bandwidth: the rate at which data is measured in bits/sec

سرعت انتقال / ثانیه

× y , All devices on the netwo... 

## Q&A

### QUESTION

all devices are connected to a common backbone that serves as a shared communications medium. To communicate a device sends a broadcast message onto...

### ANSWER

Bus network

 Quizlet · User post

## More from the web

Message trace in the Security & Compliance Center - Office 365...

You can use the information from message trace to ... For more information, see Permissions in the Security ... values are All senders and All recipients, but...

 Microsoft Docs

wired

## Table 4.1 Guided Transmission Media Types

Media Type	Description	Advantages	Disadvantages
Twisted-pair wire	Twisted pairs of copper wire, shielded or unshielded بر مسطحه	Used for telephone service; widely available	Transmission speed and distance limitations
Coaxial cable	Inner conductor wire surrounded by insulation	Cleaner and faster data transmission than twisted-pair wire	More expensive than twisted-pair wire
Fiber-optic cable	Many extremely thin strands of glass bound together in a sheathing; uses light beams to transmit signals	Diameter of cable is much smaller than coaxial cable; less distortion of signal; capable of high transmission rates	Expensive to purchase and install



Technology	Description
Radio frequency range	Operates in the <u>3 kHz</u> – <u>300 MHz</u> range
Microwave— terrestrial and satellite frequency range	High-frequency radio signal ( <u>300 MHz</u> – <u>300 GHz</u> ) sent through atmosphere and space (often involves communications satellites)
Infrared frequency range	Signals in the <u>300 GHz</u> – <u>400 THz</u> frequency range sent through air as light waves

- Fidelity
- Confidence
- You CANNOT contract out of "reasonable" liabilities

## 6.1.2. Intellectual Property Law

- Moral rights
  - the right to be identified as the author of a work, known as the right of paternity
  - the right to object to disrespectful treatment of a work, known as the right of integrity
- Copyright
  - Protects original works, sound recordings, typographical layouts
- Patents
  - Protect ideas which are novel and not obvious
- Design rights
  - Protect designs such as circuit board layout

## 6.1.3. Data Protection Law

- The subject of personal data has the right to view and correct that data
- Personal data should be accurate, adequate, relevant and kept up to date
- Personal data should not be kept for longer than is necessary
- Appropriate technical and organisational measures should be taken against

✕ es involves collecting , stori... 

## Q&A

### QUESTION

- involves collecting, storing, and disseminating information about individuals

### ANSWER

Privacy

 Quizlet · User post

## More from the web

MIS 3321 Quiz 3 Fall 2007 - UCA | Faculty

\_ issues involve collecting, storing and disseminating information about individuals. a) privacy. b) accuracy.

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## Spyware

- Software installed on a personal computer to intercept or take partial control of the user's interaction with the computer without the knowledge or permission of the user
- Similar to a Trojan horse  
Users unknowingly install it when they